Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

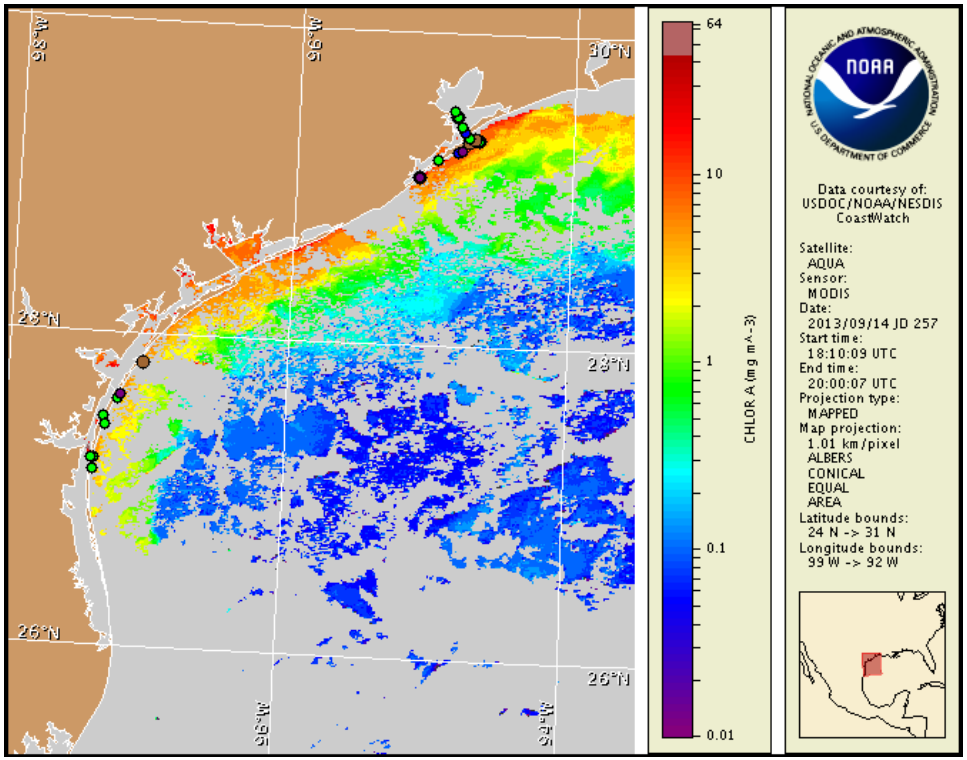
Monday, 16 September 2013

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, September 12, 2013



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 6 to 12: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Not present to low concentrations of *Karenia brevis* (commonly known as Texas red tide) are present along the coast of Texas. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Monday, September 16 to Thursday, September 19 is listed below:

Region: Forecast (Duration)
Bolivar Peninsula region: Low (M-Th)
Galveston Island region: Low (M-Th)
Bay region-Galveston Bay: Low (M-Th)
San Luis Pass to Sargent Beach region: Low (M-Th)
Port Aransas/Mustang Island to Padre Island National Seashore region: Low (M-Th)
Padre Island National Seashore region: Very low (M-Th)
All Other Texas regions: None expected (M-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Health information, from the Texas Department of State Health Services and other agencies, is available at http://tidesandcurrents.noaa.gov/hab/hab_health_info.html. No reports of respiratory irritation or dead fish have been received over the past few days.

There are currently patches of a bloom of the algae *Aureoumbra lagunensis* in the upper Laguna Madre region. This algae species does not produce the respiratory irritation associated with the Texas red tide caused by *Karenia brevis*, but it may cause discolored water and fish kills.

Analysis

Concentrations of *Karenia brevis* have been identified in the Bolivar Peninsula, Galveston, San Luis Pass to Sargent Beach, and Port Aransas/Mustang Island to Padre Island National Seashore (PINS) regions of Texas. In the Galveston Island, Galveston Bay, and Bolivar Peninsula regions, recent samples indicate *K. brevis* concentrations range between 'not present' and 'low a' (TPWD; 9/9-12). In the Port Aransas region, Texas A&M University's Imaging Flow Cytobot continues to indicate increasing *K. brevis* concentrations at Port Aransas, where 'low a' concentrations have been identified by the Cytobot and recent sampling (TAMU, TPWD; 9/12-13). Recent samples from the PINS region indicate that concentrations of *K. Brevis* are decreasing, with four samples collected from the PINS northern park boundary to the 20 mile marker all indicating that *K. brevis* concentrations are 'not present' (TPWD; 9/12). One 'very low a' sample was identified at the Packery Channel North Jetty (gulf side) on 9/12, where *K. brevis* was previously 'not present' on 9/6 (TPWD). No impacts have been reported from anywhere along the Texas coast over the last few days (TPWD, 9/13-15).

Over the past few days, MODIS Aqua imagery (9/14, shown left) has been obscured by clouds, limiting analysis. Patches of elevated to high chlorophyll (3 to 16 μg/L) are visible along- and offshore the coast from Sabine Pass to the Matagorda Peninsula region, with patches of elevated chlorophyll (3-6 μg/L) visible along- and offshore from Matagorda Island to the north Padre Island region. Elevated chlorophyll is not necessarily indicative of the presence of *K. brevis* and could also be an artifact of clouds in the

imagery or due to the resuspension of benthic chlorophyll and sediments along the coast. In situ sampling is necessary to confirm the presence of *K. brevis*.

Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 70 km south from the Bolivar Roads Pass region, 100 km south from the Sargent Beach region, 110 km south from the Port Aransas region, 90 km south from the PINS 0 mile marker, and 80 km south from the PINS 45 mile marker from September 14-19.

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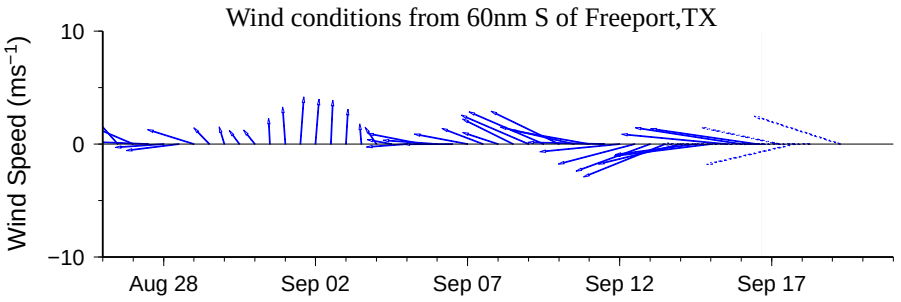
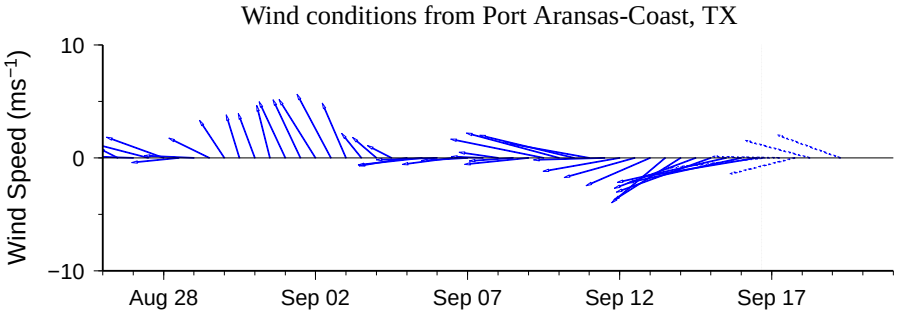
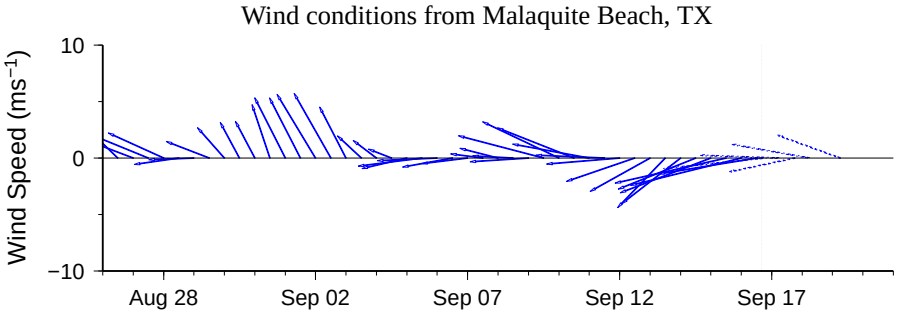


Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



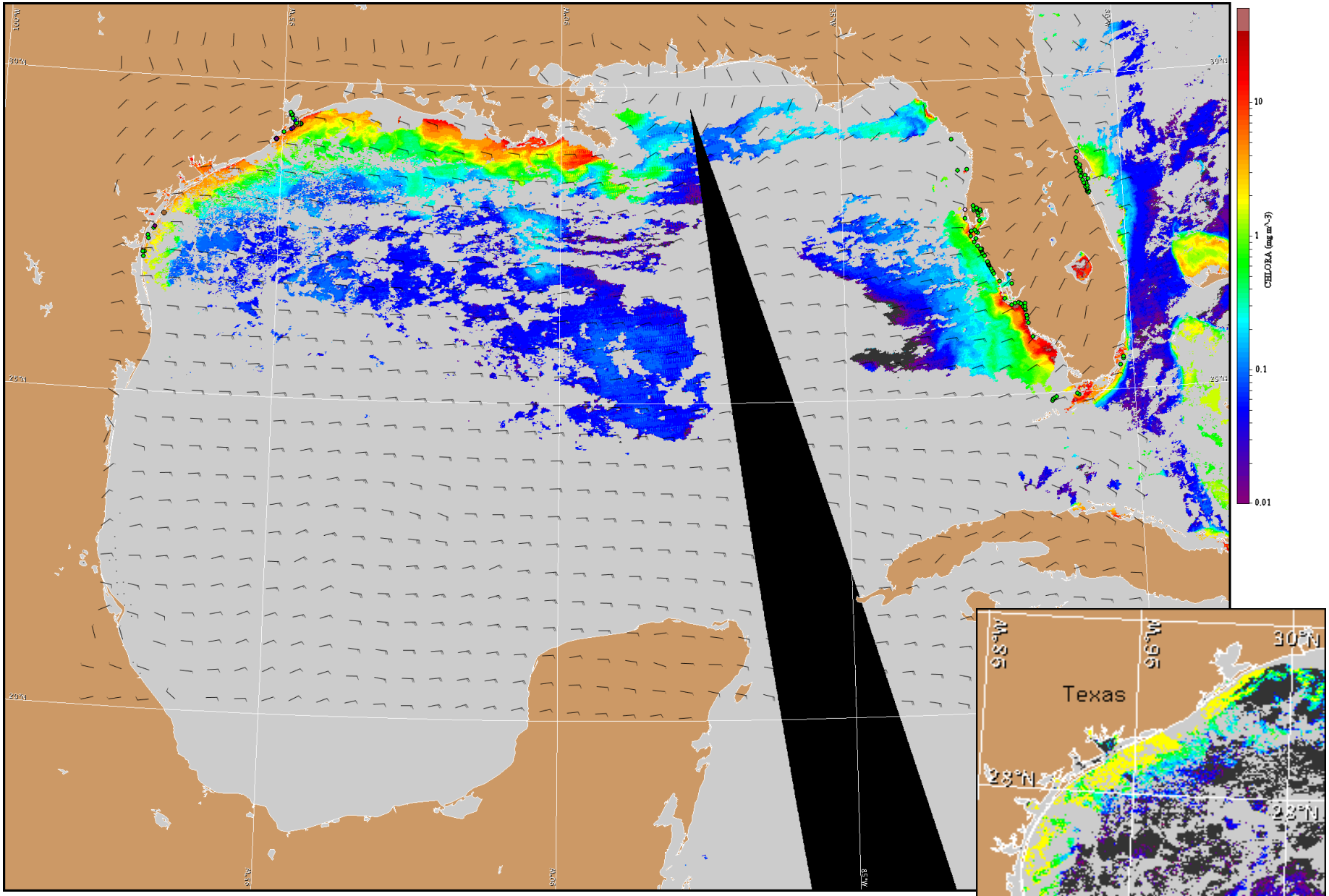


Wind Analysis

Galveston Region: East winds (10-15kn, 5-8m/s) today through Thursday.

Port Aransas: East winds (20-25kn, 10-13m/s) today. East winds (15-20kn, 8-10m/s) Tuesday. East winds (10-15kn, 5-8m/s) Tuesday night through Thursday.

Padre Island National Seashore Region: East winds (20-25kn) today. East winds (15-20kn) Tuesday. East winds (15kn, 8m/s) Wednesday through Thursday.



Satellite chlorophyll image and forecast winds for September 17, 2013 06Z with points representing cell concentration sampling data from September 6 to 12: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).